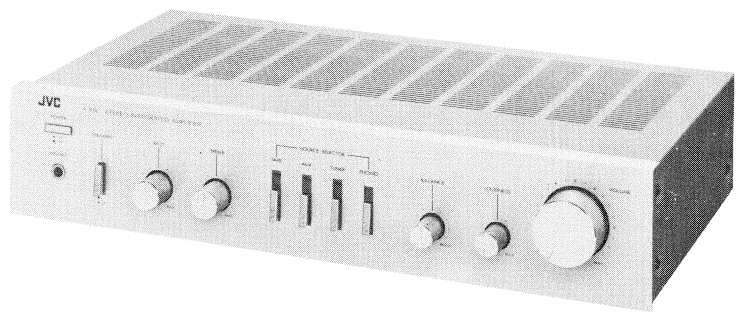
JVC

SERVICE MANUAL

MODEL A-10X

STEREO INTEGRATED AMPLIFIER



No. 5543
DEC 1980

Contents

Pages

1. Specifications 1
2. Main Parts Location
   - 2-(1) Front View 2
   - 2-(2) Rear View 2
   - 2-(3) Top View 2
3. Exploded View and Part Numbers 3
4. Block Diagram 5
5. Power Amplifier Adjustment (Test Point) Procedures
   - 5-(1) Center Voltage 5
   - 5-(2) Idling Current 5
6. Printed Circuit Board Ass'y and Parts List
   - 6-(1) TXX-308B/308C Main Amp. & Other Function Split P.C. Board Ass'y 6
   - 6-(2) TPS-303B/303C AC P.C. Board Ass'y 9
   - 6-(3) TPS-304A/304BBS AC P.C. Board Ass'y . . . 9
7. Packing Materials and Part Numbers 9
8. A-10X Schematic Diagram 10
9. Accessories List 12
10. Parts List with Specified Numbers for Designated Areas 12

Warning: When replacing the parts marked with ⚠ , be sure to use the designated parts to ensure safety.

1. Specifications

Output Power (Both Channels driven)	: 25 watts per channel, min. RMS into 8 Ω from 20 Hz to 20 kHz with no more than 0.1 % T.H.D. 28 watts per channel into 8 Ω at 1 kHz
Total Harmonic Distortion	: 0.1 % at Rated output, from 20 Hz to 20 kHz, 8 Ω 0.1 % at Rated output at 1 kHz, 8 Ω
Intermodulation Distortion	: 0.1 % at Rated output, 8 Ω
Power Band Width	: 10 Hz – 30 kHz (IHF, both channels driven, 8 Ω, 0.1 % THD)
Frequency Response	: 10 Hz – 100 kHz $^{+0.5\ dB}_{-3\ dB}$
Damping Factor	: 30 (1 kHz, 8 Ω)
Tone Controls	
BASS	: 100 Hz ±8 dB
TREBLE	: 10 kHz ±8 dB
Input Sensitivity/ Impedance	
Phono	: 2.5 mV/47 kΩ
TUNER, AUX, TAPE	: 150 mV/40 kΩ
Rec. Output Level	: 150 mV
Phono Equalizer Deviation	: ±1.0 dB (40 Hz – 15 kHz)
Phono Overload	: 100 mV (1 kHz)
Signal to Noise Ratio	
Phono	: 67 dB (new IHF) 70 dB (IHF)
TUNER, AUX, TAPE	: 75 dB (new IHF) 90 dB (IHF)
Loudness Control (Volume Control at -30 dB position)	: +8 dB at 100 Hz (Max.)
Dimensions	: 3-3/8"(H) x 16-1/2"(W) x 9-3/4"(D) (86.5 mm x 420 mm x 246 mm)
Weight	: 9.7 lbs (4.4 kg)

Power Specifications

Area	Line Voltage & Frequency	Power Consumption
U.S.A. & Canada	AC 120 V, 60 Hz	165 W, 215 VA
Europe	AC 220 V∿, 50 Hz	160 W
U.K. & Australia	AC 240 V∿, 50 Hz	160 W
Other Countries	AC 110/120/220/240 V∿ selectable, 50/60 Hz	160 W

Design and specifications subject to change without notice.

2. Main Parts Location

2-(1) Front View

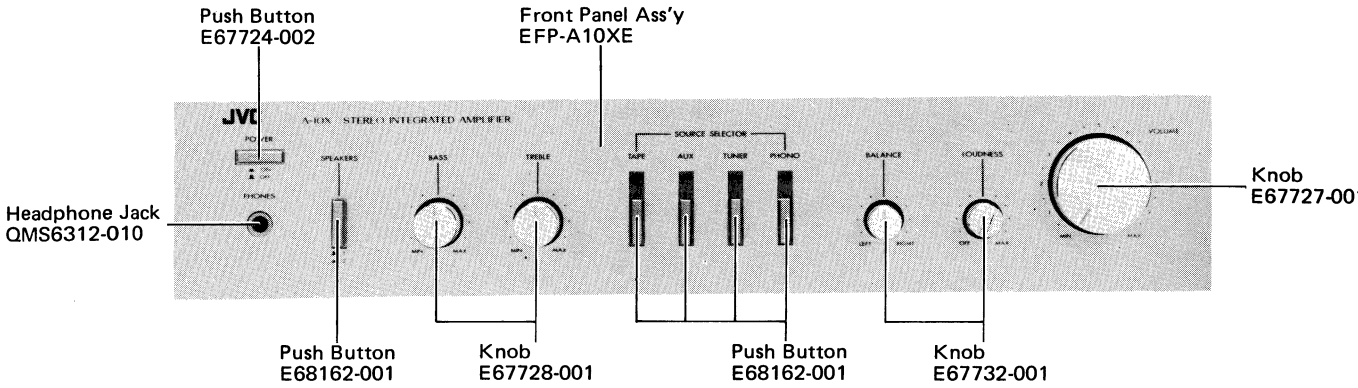


Fig. 1

2-(2) Rear View

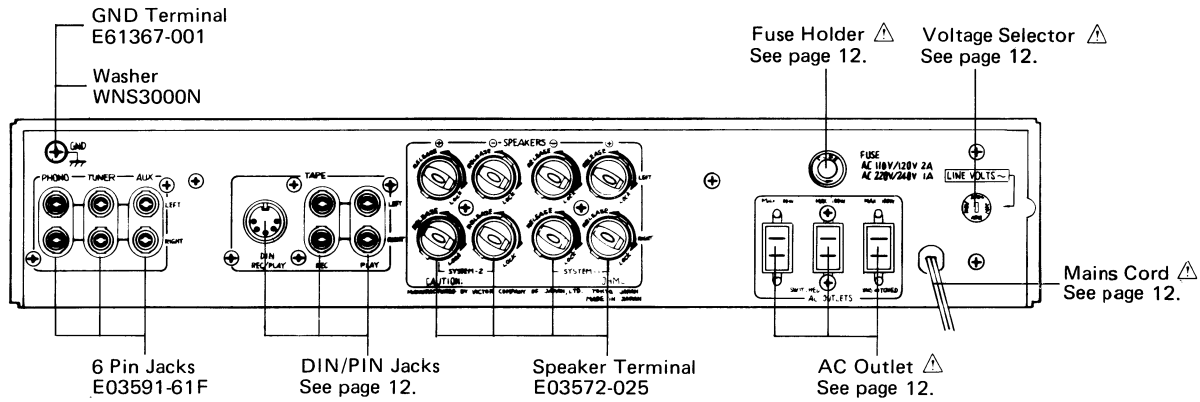


Fig. 2

2-(3) Top View

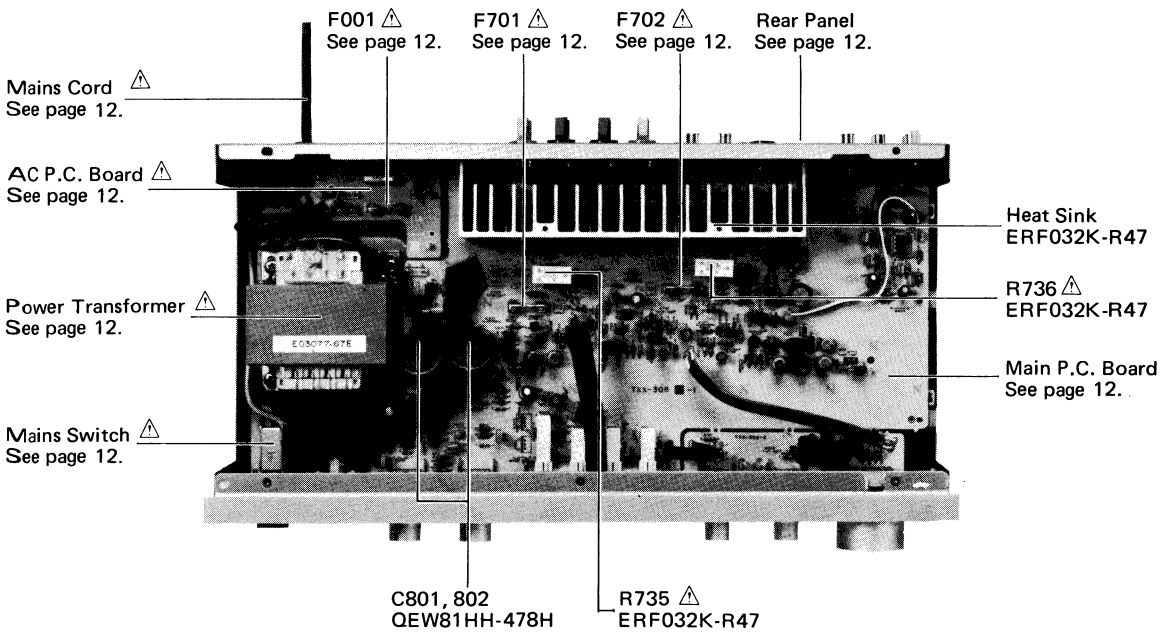
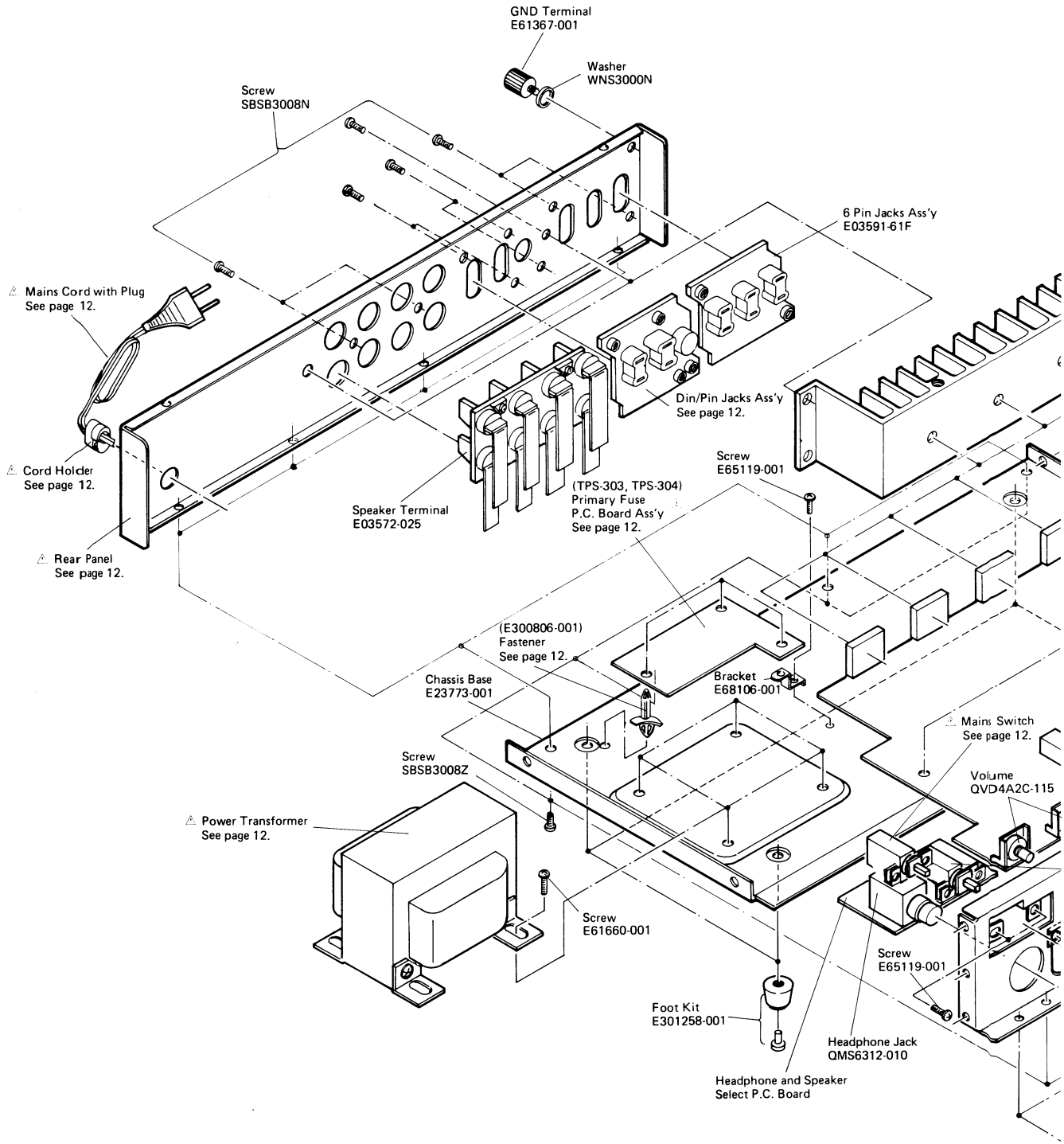
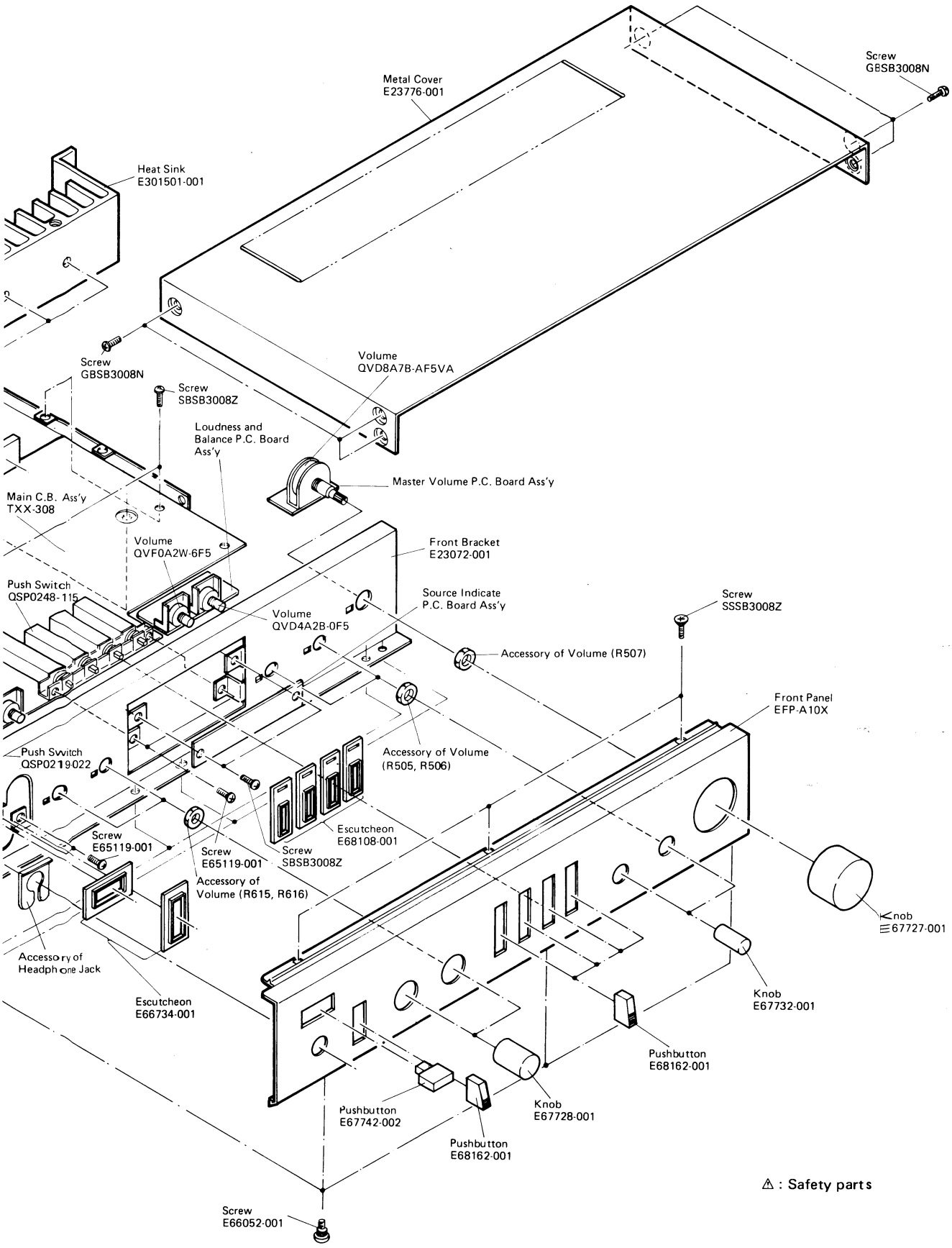


Fig. 3

3. Exploded View and Part Numbers





⚠ : Safety parts

4. Block Diagram

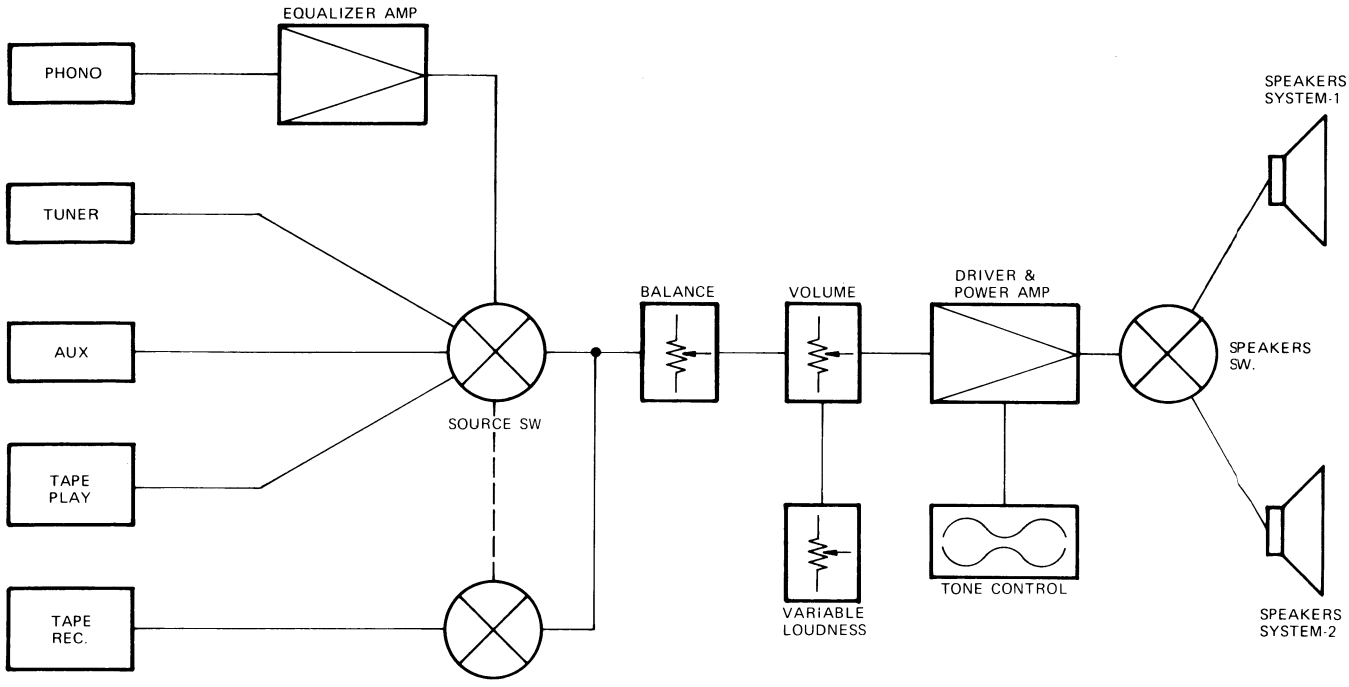


Fig. 5

5. Power Amplifier Adjustment (Test Point) Procedures

5-(1) Center Voltage

Center Voltage is obtained by measuring the voltage of the Speaker output.
For the purpose, test points "B" and "D" are located on the Main Amp. P.C. Board, refer to Fig. 8.
Select the transistor which makes adjust center voltage between "-50 mV" and "+50 mV", left channel (X703) and right channel (X704).

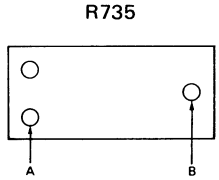


Fig. 6

5-(2) Idling Current

Idling Current is obtained by measuring the voltage of the emitter resistor connected to the Power Transistor.
For the purpose, test points "A" and "B", "C" and "D" are located on the Main Amp. P.C. Board, refer to Fig. 8.
Select the resistor of the left channel (R717) and right channel (R718) for "3 mV" to "18 mV"

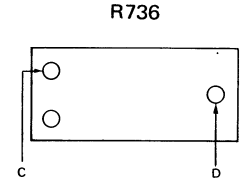


Fig. 7

6. Printed Circuit Board Ass'y and Parts List

6-(1) TXX-308B/308C Main Amp. & Other Function Split P.C.Board Ass'y

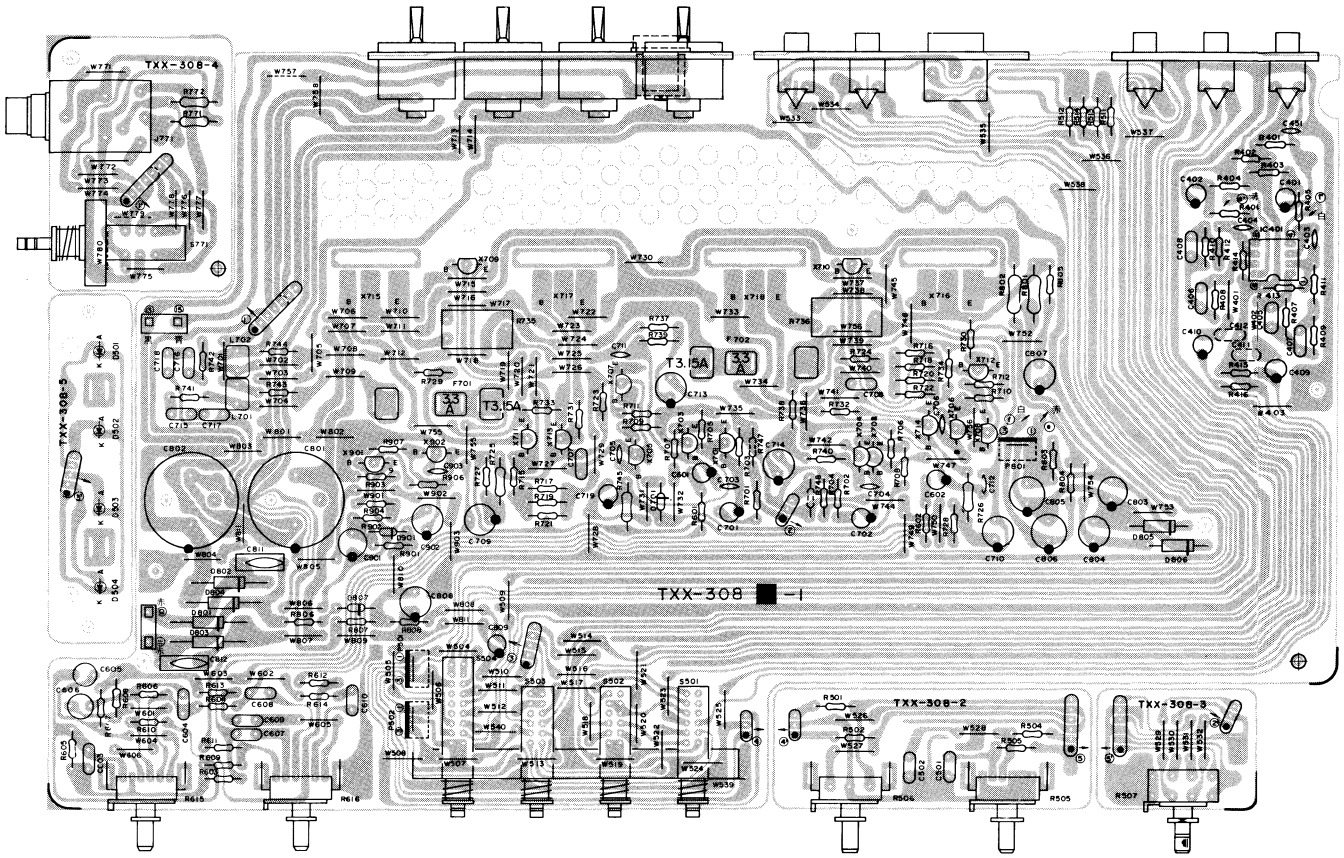


Fig. 8

Each Individual P.C. Board Location

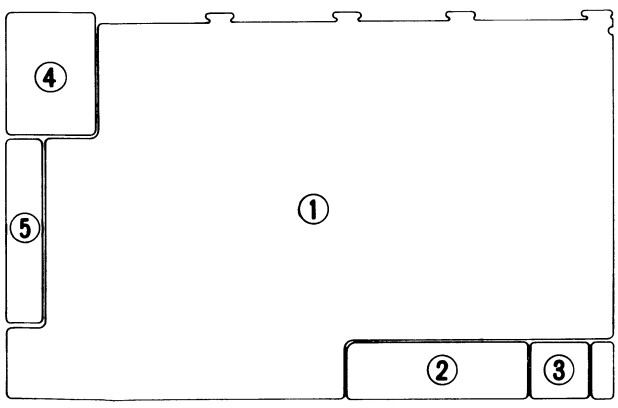


Fig. 9

1 TXX-308-1 : Audio Amp. Block
2 TXX-308-2 : Balance & Loudness Block
3 TXX-308-3 : Master Volume Block
4 TXX-308-4 : Phones & Speakers Switch Block
5 TXX-308-5 : Source Indicate Block

Transistors

Item No.	Part Number	Rating		Description	
		Pc	fT		Maker
X701	2SC1775AV(F1)	0.2 W	200 MHz	Silicon	Hitachi
X702	2SC1775AV(F1)	"	"	"	"
X703	2SC1775AV(F1)	"	"	"	"
X704	2SC1775AV(F1)	"	"	"	"
X705	2SA970(GR,BL)	0.3 W	100 MHz	"	Toshiba
X706	2SA970(GR,BL)	"	"	"	"
X707	2SA949(O,Y)	3 W	120 MHz	"	"
X708	2SA949(O,Y)	"	"	"	"
X709	2SC458(C)	0.2 W	230 MHz	"	Hitachi
X710	2SC458(C)	"	"	"	"
X711	2SC2235(O,Y)	0.9 W	120 MHz	"	Toshiba
X712	2SC2235(O,Y)	"	"	"	"
X713	2SA965(O,Y)	"	"	"	"
X714	2SA965(O,Y)	"	"	"	"
X715	2SD716(R,O)	60 W	10 MHz	"	"
X716	2SD716(R,O)	"	"	"	"
X717	2SB686(R,O)	"	12 MHz	"	"
X718	2SB686(R,O)	"	"	"	"
X901	2SA970(GR,BL)	0.3 W	100 MHz	"	"
X902	2SA970(GR,BL)	"	"	"	"

Integrated Circuit

Item No.	Part Number	Rating	Description
		Pc	Maker
IC401	NJM4558D-D	0.5 W	JRC

Diodes

Item No.	Part Number	Rating		Description	
					Maker
D501	TLR205	0.056 W		L.E.D.	Toshiba
D502	TLR205	"		"	"
D503	TLR205	"		"	"
D504	TLR205	"		"	"
D701	RD9, IEB3	9.1 V	0.5 W	Zenner	NEC
D801	10E2FC	1 A		Silicon	JIR
D802	10E2FC	"		"	"
C803	10E2FC	"		"	"
D804	10E2FC	"		"	"
D805	DZB15-KC1	15 V	1 W	Zenner	Sanyo
D806	DZB15-KC1	"	"	"	
D807	1S2076-31			Silicon	Hitachi
D901	1S2076-31			"	"

Coils & Transformers

Item No.	Part Number	Rating	Description
L701	Y00087-002	Coil	
L702	Y00087-002	"	
TAPE	E03591-002	DIN/Pin Jack	TXX-308C (U.S. Military Market, Europe, Australia, U.K. & Other Countries)
TAPE	E03951-41F	4P Pin Jack	TXX-308B (U.S.A. & Canada)

Capacitors

Item No.	Part Number	Rating		Description	
C401	QET61HR-105ZM	1 μF	50 V	Electrolytic	
C402	QET61HR-105ZM	"	"	"	
C403	QCS31HJ-101Z	100 pF	"	Ceramic	
C404	QCS31HJ-101Z	"	"	"	
C405	QFM31HK-182Z	1800 pF	"	Mylar	
C406	QFM31HK-182Z	"	"	"	
C407	QFM31HK-682Z	6800 pF	"	"	
C408	QFM31HK-682Z	"	"	"	
C409	QET61HR-105ZM	1 μF	"	Electrolytic	
C410	QET61HR-105ZM	"	"	"	
C451	QCF31HP-473Z	0.047 μF	"	Ceramic	
C501	QFM31HK-183Z	0.018 μF	"	Mylar	
C502	QFM31HK-183Z	"	"	"	
C601	QET61HR-475ZM	4.7 μF	"	Electrolytic	
C602	QET61HR-475ZM	"	"	"	
C603	QFM31HK-333Z	0.033 μF	"	Mylar	
C604	QFM31HK-333Z	"	"	"	
C605	QEZ0046-224	0.22 μF		Non-Polarized Electrolytic	
C606	QEZ0046-224	"		"	
C607	QFM31HK-222Z	2200 pF	50 V	Mylar	
C608	QFM31HK-222Z	"	"	"	
C609	QFM31HK-223Z	0.022 μF	"	"	
C610	QFM31HK-223Z	"	"	"	
C701	QET61HR-105ZM	1 μF	"	Electrolytic	
C702	QET61HR-105ZM	"	"	"	
C703	QCS31HJ-101Z	100 pF	"	Ceramic	
C704	QCS31HJ-101Z	"	"	"	
C705	QCS31HJ-100Z	10 pF	"	"	
C706	QCS31HJ-100Z	"	"	"	
C707	QFM31HK-102Z	1000 pF	"	Mylar	
C708	QFM31HK-102Z	"	"	"	
C709	QET61HR-226ZM	22 μF	"	Electrolytic	
C710	QET61HR-226ZM	"	"	"	
C711	QCS31HJ-100Z	10 pF	"	Ceramic	
C712	QCS31HJ-100Z	"	"	"	
C713	QET61AR-107ZM	100 μF	10 V	Electrolytic	
C714	QET61AR-107ZM	"	"	"	
C715	QFM31HK-473Z	0.047 μF	50 V	Mylar	
C716	QFM31HK-473Z	"	"	"	
C717	QFM31HK-473Z	"	"	"	
C718	QFM31HK-473Z	"	"	"	
C719	QET61CR-226ZM	22 μF	16 V	Electrolytic	
C801	QEW81HH-478H	4700 μF	50 V	"	
C802	QEW81HH-478H	"	"	"	
C803	QET61CR-107ZM	100 μF	16 V	"	
C804	QET61CR-107ZM	"	"	"	
C805	QET61CR-227ZM	220 μF	"	"	
C806	QET61CR-227ZM	"	"	"	
C807	QET61HR-227ZM	"	50 V	"	
C808	QET61HR-226ZM	22 μF	"	"	
C811	QCE22HP-103A	0.01 μF	500 V	Ceramic	TXX-308B (U.S.A. & Canada)
C812	QCE22HP-103A	"	"	"	
C811	QFZ0075-104	0.1 μF	400 V	Ceramic	TXX-308C (U.S. Military Market, Europe, Australia, U.K. & Other Countries)
C812	QFZ0075-104	"	"	"	
C901	QET61HR-476ZM	47 μF	50 V	Electrolytic	
C902	QET61HR-476ZM	"	"	"	
C903	QCF21HP-473Z	0.047 μF	"	Ceramic	

Resistors

Item No.	Part Number	Rating		Description
R401	QRD141J-104SY	100 kΩ	1/4 W	Carbon
R402	QRD141J-104SY	"	"	"
R403	QRD141J-104SY	"	"	"
R404	QRD141J-104SY	"	"	"
R405	QRD141J-222SY	2.2 kΩ	"	"
R406	QRD141J-222SY	"	"	"
R407	QRD141J-393SY	39 kΩ	"	"
R408	QRD141J-393SY	"	"	"
R409	QRD141J-474SY	470 kΩ	"	"
R410	QRD141J-474SY	"	"	"
R411	QRD141J-182SY	1.8 kΩ	"	"
R412	QRD141J-182SY	"	"	"
R413	QRD141J-821SY	820 Ω	"	"
R414	QRD141J-821SY	"	"	"
R415	QRD141J-104SY	100 kΩ	"	"
R416	QRD141J-104SY	"	"	"
R501	QRD141J-332SY	3.3 kΩ	"	"
R502	QRD141J-332SY	"	"	"
R503	QRD141J-183SY	18 kΩ	"	"
R504	QRD141J-183SY	"	"	"
R505	QVD4A2B-0F5	250 kΩ		Variable
R506	QVF0A2W-6F5	"		"
R507	QVD8A7B-AF5VA	"		"
R511	QRD141J-334SY	330 kΩ	1/4 W	Carbon TXX-308C
R512	QRD141J-334SY	"	"	" (U.S. Military
R513	QRD141J-104SY	100 kΩ	"	" Market,
R514	QRD141J-104SY	"	"	" Europe, Australia, U.K. & Other Countries)
R601	QRD141J-562SY	5.6 kΩ	1/4 W	Carbon
R602	QRD141J-562SY	"	"	"
R603	QRD141J-123SY	12 kΩ	"	"
R604	QRD141J-123SY	"	"	"
R605	QRD141J-823SY	82 kΩ	"	"
R606	QRD141J-823SY	"	"	"
R607	QRD141J-182SY	1.8 kΩ	"	"
R608	QRD141J-182SY	"	"	"
R609	QRD141J-182SY	"	"	"
R610	QRD141J-182SY	"	"	"
R611	QRD141J-472SY	4.7 kΩ	"	"
R612	QRD141J-472SY	"	"	"
R613	QRD141J-561SY	560 Ω	"	"
R614	QRD141J-561SY	"	"	"
R615	QVD4A2C-115	100 kΩ		Variable
R616	QVD4A2C-115	"		"
R701	QRD141J-102SY	1 kΩ	1/4 W	Carbon
R702	QRD141J-102SY	"	"	"
R703	QRD141J-104SY	100 kΩ	"	"
R704	QRD141J-104SY	"	"	"
R705	QRD149J-182S	1.8 kΩ	"	"
R706	QRD149J-182S	"	"	"
R707	QRD141J-562SY	5.6 kΩ	"	"
R708	QRD141J-562SY	"	"	"
R709	QRD141J-332SY	3.3 kΩ	"	"
R710	QRD141J-332SY	"	"	"
R711	QRD149J-100S	"	"	"
R712	QRD149J-100S	"	"	"
R715	QRD141J-202SY	2 kΩ	"	"
R716	QRD141J-202SY	"	"	"
R717	QRD141J-331SY	330 Ω	"	"
R718	QRD141J-331SY	"	"	"
R719	QRD141J-681SY	680 Ω	"	"
R720	QRD141J-681SY	"	"	"
R721	QRD141J-182SY	1.8 kΩ	"	"
R722	QRD141J-182SY	"	"	"
R723	QRD141J-102SY	1 kΩ	"	"
R724	QRD141J-102SY	"	"	"
R725	QRD129J-332	3.3 kΩ	1/2 W	"
R726	QRD129J-332	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R727	QRD149J-242	2.4 kΩ	1/4 W	"
R728	QRD149J-242	"	"	"
R729	QRD149J-100S	10 Ω	"	"
R730	QRD149J-100S	"	"	"
R731	QRD149J-100S	"	"	"
R732	QRD149J-100S	"	"	"
R733	QRD149J-271S	270 Ω	"	"
R734	QRD149J-271S	"	"	"
R735	ERF032K-R47	0.47 Ω	3 W	Metal Plate
R736	ERF032K-R47	"	"	"
R737	QRD141J-683SY	68 kΩ	1/4 W	Carbon
R738	QRD141J-683SY	"	"	"
R739	QRD141J-681SY	680 Ω	"	"
R740	QRD141J-681SY	"	"	"
R741	QRD149J-100S	10 Ω	"	"
R742	QRD149J-100S	"	"	"
R743	QRD149J-100S	"	"	"
R744	QRD149J-100S	"	"	"
R745	QRD129J-102	1 kΩ	1/2 W	"
R771	QRD129J-221	220 Ω	"	"
R772	QRD129J-221	"	"	"
R801	QRG017J-821S	820 Ω	1 W	Oxide Metal Film
R802	QRG017J-821S	"	"	"
R803	QRD149J-330S	33 Ω	1/4 W	Carbon
R804	QRD149J-330S	"	"	"
R805	QRD149J-820S	82 Ω	"	"
R806	QRD149J-100S	10 Ω	"	"
R807	QRD141J-682SY	6.8 kΩ	"	"
R808	QRD141J-272SY	2.7 kΩ	"	"
R901	QRD141J-124SY	120 kΩ	"	"
R902	QRD141J-124SY	120 kΩ	"	"
R903	QRD141J-274SY	270 kΩ	"	"
R904	QRD141J-101SY	100 Ω	"	"
R906	QRD141J-471SY	470 Ω	"	"
R907	QRD141J-103SY	10 kΩ	"	"

Others

Item No.	Part Number	Rating	Description
	QMS6312-010		H. Phone Jack
	QSP0248-151		Source SW.
	QSP0219-022		SPK SW.
	E03572-025	SPK Terminal	
	E03591-61F	6P Pin Jack	Phono, Tuner, AUX
	E10582-101	Circuit Board	
	E301501-001	Heat Sink	
	E45524-002	Fuse Clip	TXX-308B (U.S.A. & Canada)
	E48965-002	Fuse Clip	TXX-308C (U.S. Military Market, Europe, Australia, U.K. & Other Countries)
	E48965-002	Fuse Clip	
	E68107-001	LED Holder	
	E67764-102	Tab	
	EWR33A-10NN	Ribbon Cable	BALANCE
	EWR35A-20NN	"	LED
	EWR37A-20NN	"	SPK
	EWR36A-10NN	Ribbon Cable	LOUDNESS
	EWR23C-16NN	Ribbon Cable	MAIN IN

6-(2) TPS-303B/303C AC P.C.Board Ass'y

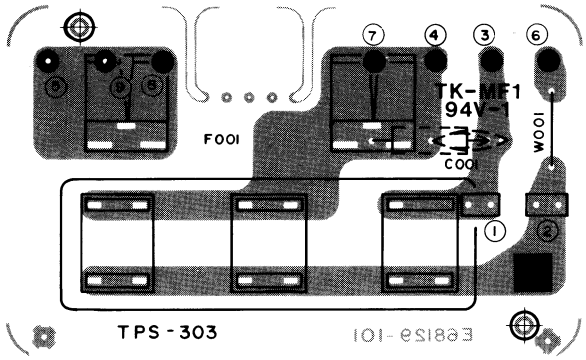


Fig. 10

Others

for U.S.A., Canada, U.S. Military Market & Other Countries

Item No.	Part Number	Rating	Description
	E03675-004	Fuse Clip	
	E68129-101	Cir. Board	
	E43727-001	Tab	
	E65508-001	"	
C001	QCZ9014-103A	0.01 μF Ceramic	TPS-303B (U.S.A. & Canada)
C001	QFZ9010-103	" Film	TPS-303C (U.S. Military Market & Other Countries)

6-(3) TPS-304A/304BBS AC P.C.Board Ass'y

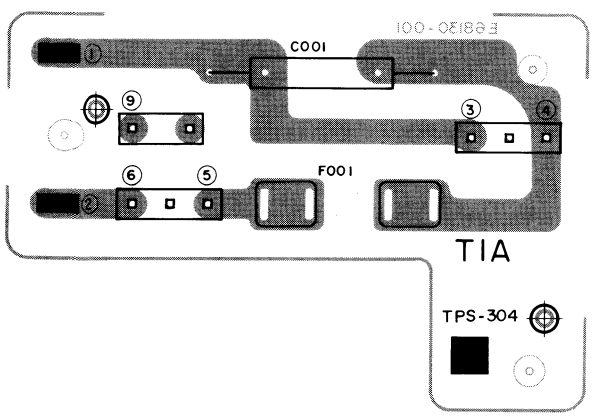


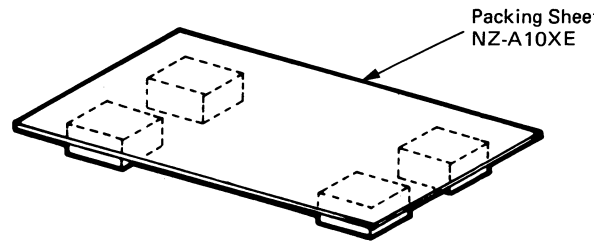
Fig. 11

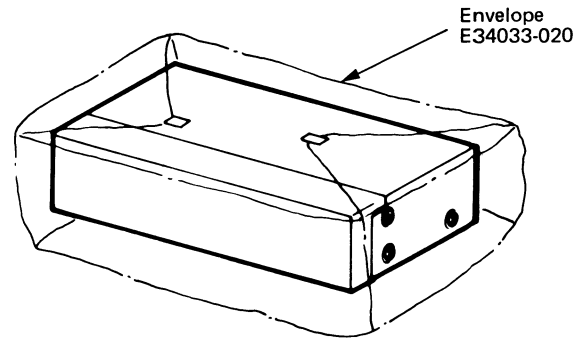
Resistors

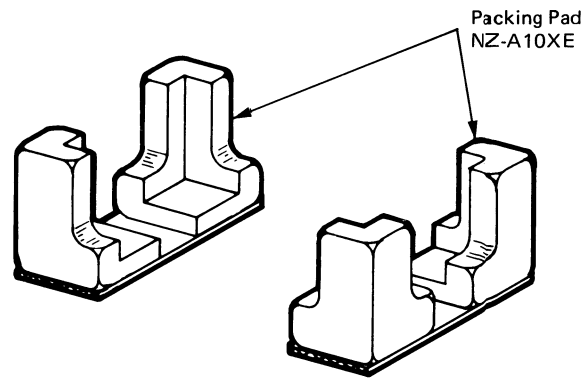
for Europe, Australia & U.K.

Item No.	Part Number	Rating	Description
	E48965-002	C. Clip	
	E68130-001	Cir. Board	TPS-304A (Europe & Australia)
	E68130-001BS	Cir. Board	TPS-304BBS (U.K.)
BAR	E67764-102	Wraping Terminal	
	E67764-003	"	
	E65508-001	Tab	
C001	QFZ9010-103	0.01 μF Film	TPS-304A (Europe & Australia)
C001	QFZ9010-103BS	" "	TPS-304BBS (U.K.)

7. Packing Materials and Part Numbers







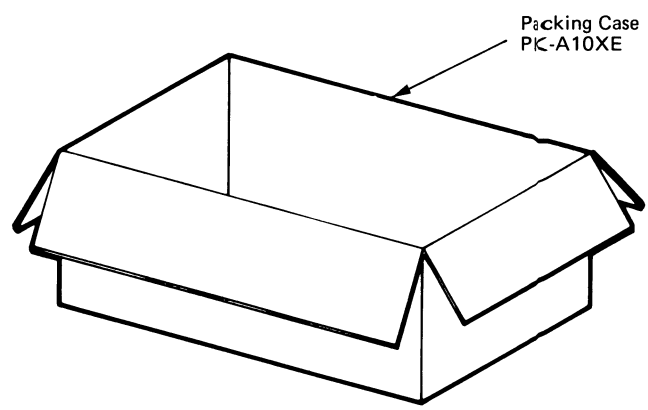
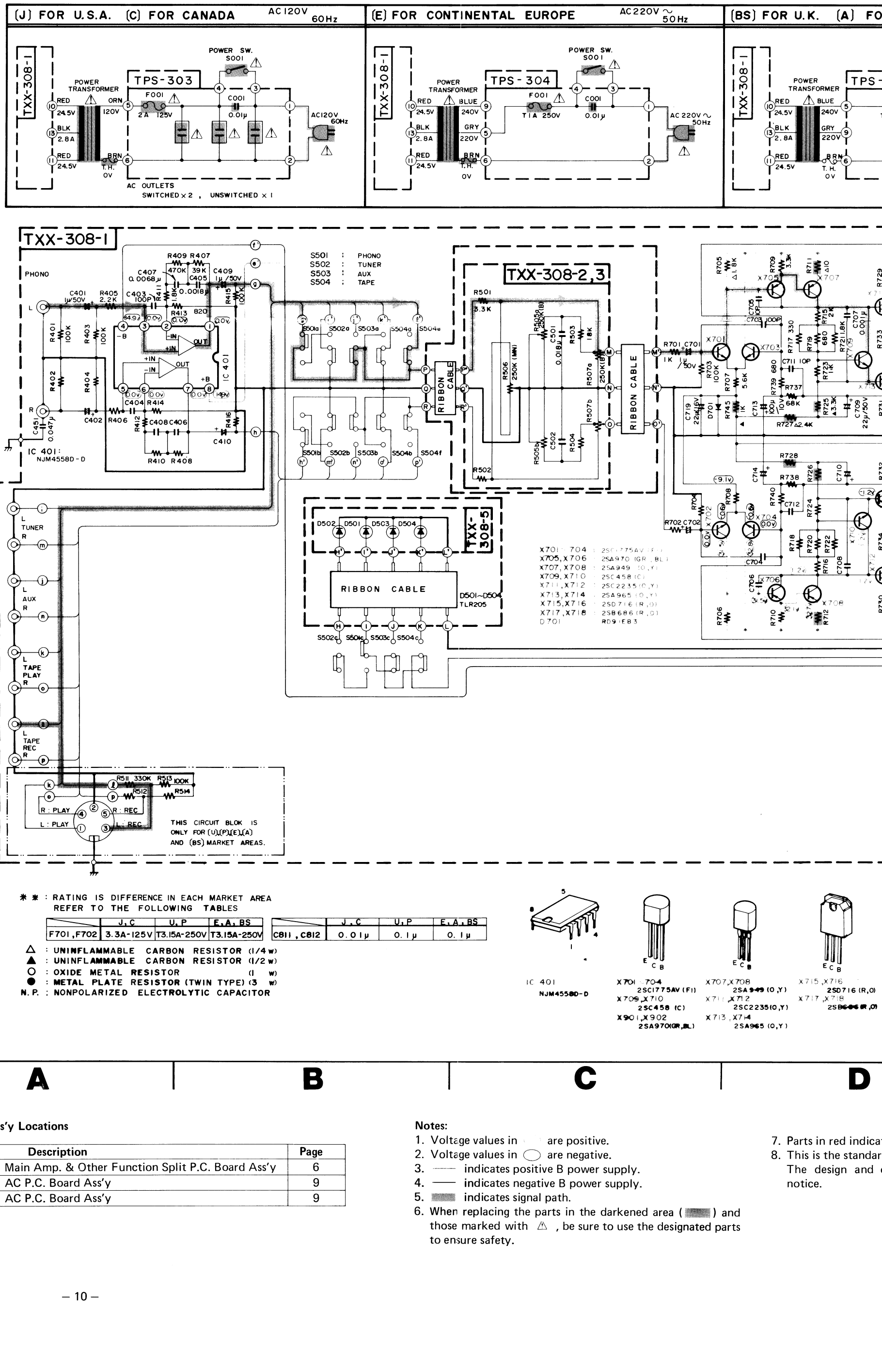


Fig. 12

8. A-10X Schematic Diagram



* * : RATING IS DIFFERENCE IN EACH MARKET AREA
REFER TO THE FOLLOWING TABLES

	J, C	U, P	E, A, BS
F701, F702	3.3A-125V	T3.15A-250V	T3.15A-250V

	J, C	U, P	E, A, BS
C811, C812	0.01μ	0.1μ	0.1μ

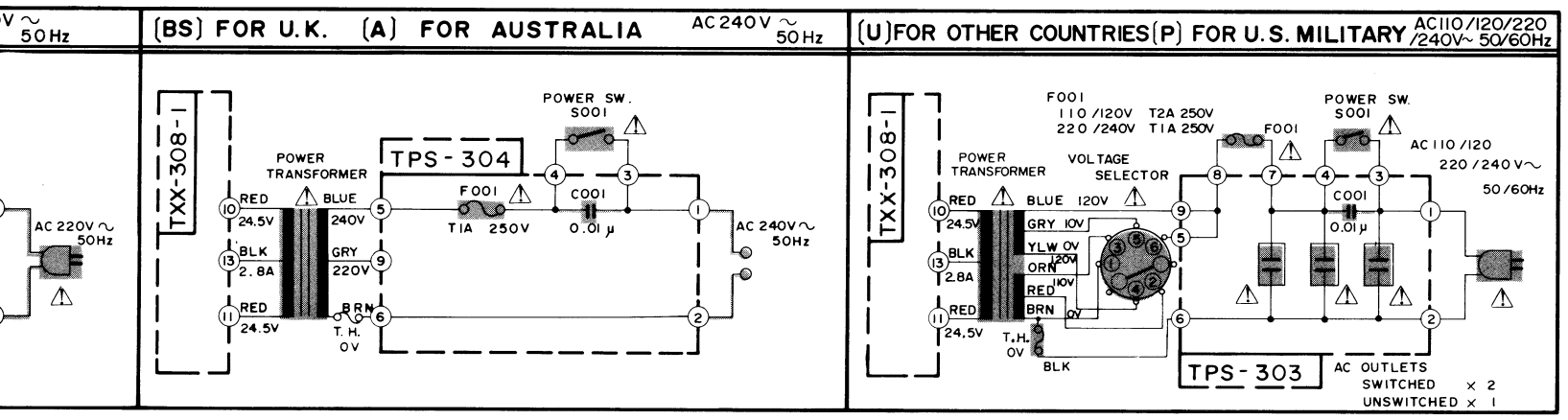
△ : UNINFLAMMABLE CARBON RESISTOR (1/4 w)
▲ : UNINFLAMMABLE CARBON RESISTOR (1/2 w)
○ : OXIDE METAL RESISTOR (1 w)
● : METAL PLATE RESISTOR (TWIN TYPE) (3 w)
N. P. : NONPOLARIZED ELECTROLYTIC CAPACITOR

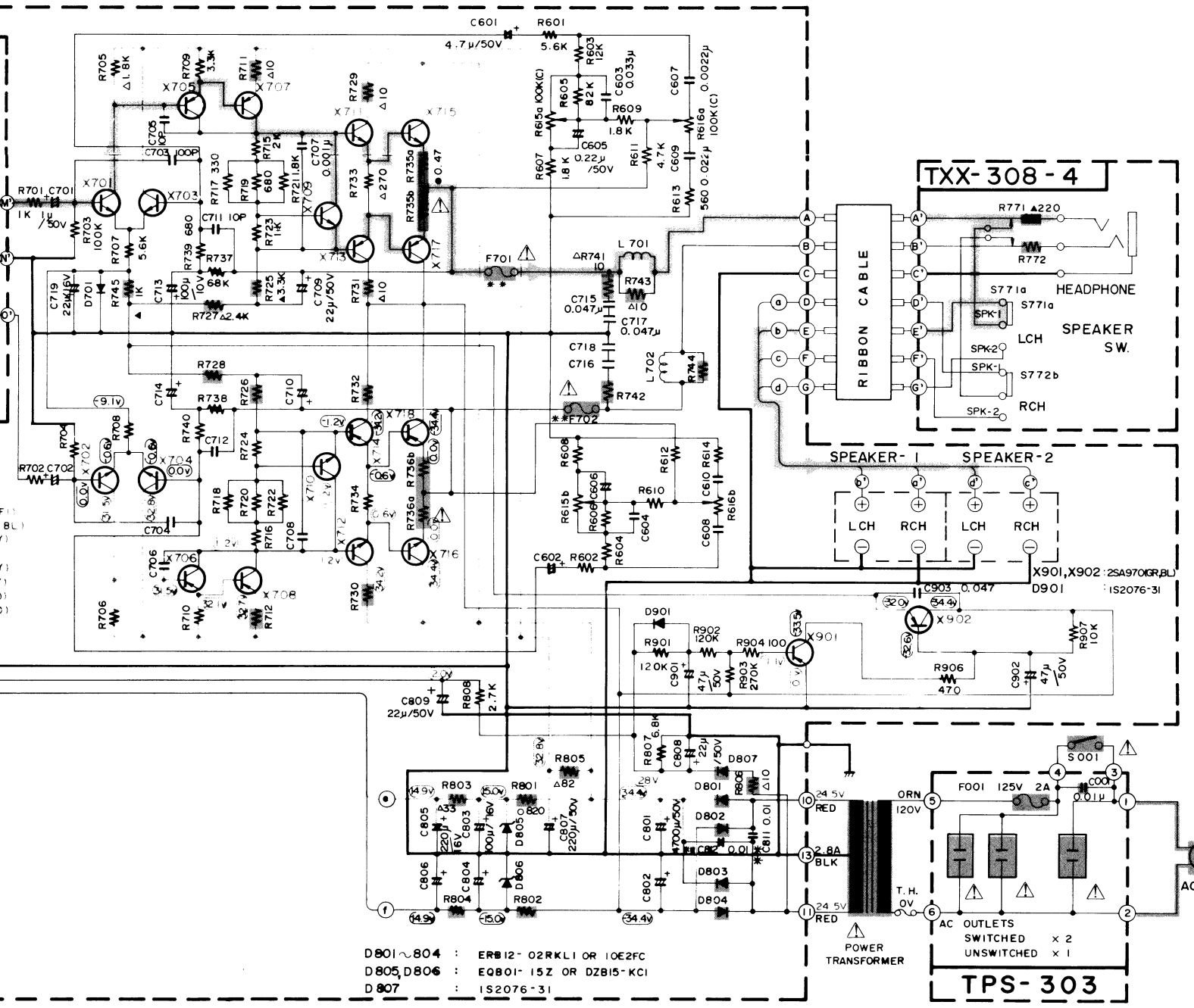
Printed Circuit Board Ass'y Locations

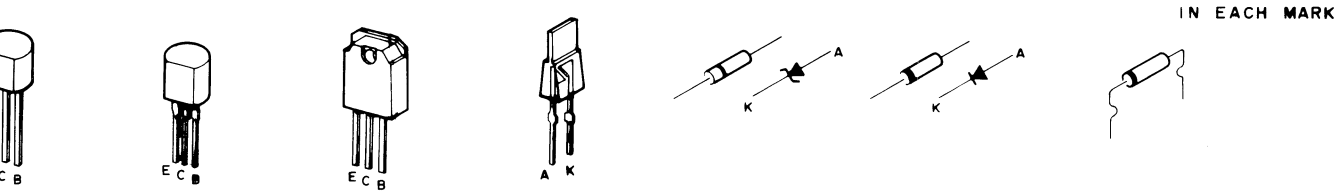
P.C. Board Ass'y	Description	Page
TXX-308B/308C	Main Amp. & Other Function Split P.C. Board Ass'y	6
TPS-303B/303C	AC P.C. Board Ass'y	9
TPS-304A/304BBS	AC P.C. Board Ass'y	9

Notes:

1. Voltage values in ▭ are positive.
2. Voltage values in ◯ are negative.
3. —— indicates positive B power supply.
4. —— indicates negative B power supply.
5. ▒▒ indicates signal path.
6. When replacing the parts in the darkened area (▒▒) and those marked with ⚠, be sure to use the designated parts to ensure safety.
7. Parts in red indica
8. This is the standar
   The design and
   notice.







7. Parts in red indicate transistors or ICs.
8. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

area ( ) and
designated parts

9. Accessories List

Item No.	Part Number	Description	Q'ty
1	E30580-844A	Instruction Book (for U.K., E30580-844ABS)	1
2	See below	Warranty Card	1
3	E41202-2	Envelope for Instruction Book & Warranty Card	1
4	See below	Service Procedure	1
5	See below	Fuses (Within)	1
6	E64208-001	Envelope for Fuses (Within)	1
7	BT20044B	JVC Safety Instruction Sheet (for U.S.A. only)	1
8	See below	Siemens Plug	1

Warranty Card

U.S.A.	Canada	U.K.	U.S. Military Market	Australia
BT20032B	BT20025D	BT20013C	BT20032B	BT20029B

10. Parts List with Specified Numbers for Designated Areas

Page	Item No.	Description	U.S. Military Market & Other Countries	U.S.A. & Canada	Australia	Europe	U.K.
2	2-(3)	Power Transformer ⚠	E03077-67C	E03077-67B	E03077-67E	E03077-67E	E03077-67EBS
2	2-(3)	Mains Switch ⚠	QSP1110-305	QSP1110-308	QSP1110-305	QSP1110-305	QSP1110-305BS
2	2-(3)	AC P.C. Board ⚠	TPS-303C	TPS-303B	TPS-304A	TPS-304A	TPS-304BBS
2	2-(3)	Main P.C. Board	TXX-308C	TXX-308B	TXX-308C	TXX-308C	TXX-308(
2	2-(3)	Rear Panel	E23774-003	E23774-002	E23774-004	E23774-004	E23774-0)4
2	2-(2)	Voltage Selector ⚠	QSR0085-001U	–	–	–	–
2	2-(3)	Mains Cord ⚠	QMP7600-250	QMP1200-200	QMP2560-244	QMP3900-200	QMP9017O08BS
		Cord Stopper	QHS3876-162	QHS3876-162	QHS3876-162	QHS3876-162	QHS38761 62BS
		Fuse Socket	QMG0301-003	–	–	–	–
2	2-(3)	Fuse (SPK F701, 702) ⚠	QMF51A2-3R15S	QMF60R1-3R3	QMF51A2-3R15S	QMF51A2-3R15S	QMF51A2-3R15SBS
2	2-(3)	Fuse (Primary F001) ⚠	QMF51A2-1R0L or QMF51A2-2R0L	QMF61U1-2R0	QMF51A2-1R0L	QMF51A2-1R0L	QMF51A2-1R0LBS
12	9	Inst. Book	E30580-884A	E30580-884A	E30580-884A	E30580-884A	E30580-84ABS
12	9	Warranty Card	BT20032B (U.S. Military Market)	BT20032B(U.S.A.) or BT20025D(Canada)	BT20029B	–	BT20013(
12	9	Safety Inst. Sheet	–	BT20044B(U.S.A.)	–	–	–
12	9	Service Procedure	BT20042	BT20042(U.S.A.)	–	–	–
12	9	Fuse (Within) ⚠	QMF51A2-1R0L or QMF51A2-2R0L	–	–	–	–
12	9	Siemens Plug	E04056	–	–	–	–
2	2-(2)	4P Pin Jack	–	E03591-41F	–	–	–
2	2-(2)	DIN/Pin Jack	E03591-002	–	E03591-002	E03591-002	E03591-02

⚠ : Safety parts